REMARKS

By the above amendments, minor informalities in the specification, as pointed out by the Examiner, have been corrected, Claims 1-10 have been cancelled without or disclaimer of the subject matter thereof, and new Claims 11-25 have been presented, wherein Claims 11 and 19 are independent apparatus claims, and Claims 24 and 25 are independent method claims. Applicants will discuss the features of these newly-added claims below.

With regard to the objection to the drawings, Applicants note that Figure 2 has been amended to utilize reference characters 4a for the copy server and data management table 222 rather than 42 and 221, noting that the correct reference numerals are utilized in the specification in the description of Figure 2 at page 7, lines 16 and 17, and line 20. Submitted herewith are formal corrected drawings with respect to Figure 2, and likewise, with respect to Figure 12, which has been labeled as "Prior Art" in light of the requirement that Figure 12 should be designated by a legend such as "Prior Art." Accordingly, Applicants request acceptance of the formal corrected drawings attached hereto.

As to the rejection of Claims 1-10 under 35 USC §103(a) as being unpatentable over admitted prior art (Figure 12, pages 1 and 2) in view of Seaton *et al.* (US 5,591,299 A), this rejection is considered to be obviated by the cancellation of Claims 1-10 and the presentation of new Claims 11-25. However, insofar as this rejection may be considered to be applicable to the newly-added claims, the rejection is traversed insofar as it is applicable to the present claims, and reconsideration and withdrawal of the rejection are respectfully requested.

As to the requirements to support a rejection under 35 USC §103, reference is made to the decision *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under §103 to establish a *prima facie* case of obviousness, and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the Court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. As further noted by the Court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the recent decision in *In re Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002), wherein the Court, in reversing an obviousness rejection, indicated that deficiencies of the cited reference cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge." The Court pointed out:

> The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of reference, simply to "[use] that which the inventor taught against its teacher."...Thus, the Board must not only assure

> that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

Applicants note that, as described in the specification of this application, Figure 12 is representative of the prior art, and as described in the specification of this application, the prior art arrangement is deficient for the reasons set forth, which deficiency is overcome by the features as described in connection with Figures 1 and 2, and others of the drawings, and as now recited in newly-presented Claims 11-25. More particularly, independent Claim 11 recites the features of a semiconductor processing apparatus which comprises a chamber in which at least one sample wafer as a processing object is processed, a data collecting device for collecting and storing process data which is generated during processing of the at least one sample wafer, the process data including emission data generated within the chamber, and a data storing device for storing data to be analyzed which is included in the process data generated during processing of another sample wafer, the data storing device enabling supply of the data stored therein at least while the data collecting device collects or stores the process data therein. Independent method Claims 24 and 25 recite an operating method for a semiconductor processing apparatus for processing a sample wafer as a processing object which comprises the steps of collecting data generated during processing the sample wafer, reading data to be analyzed within the collected data, and transferring the read data to a data copying device which stores a copy of the read data thus transferred, and analyzing the data stored in the data copying device, or after collecting data generated during processing of the sample wafer, reading data necessary for diagnosis of an operation of the

semiconductor processing apparatus within the collected data and transferring the read data to a data storing device which stores a copy of the read data thus transferred, and diagnosing the operation using the data stored in the data copying device. Furthermore, independent Claim 19 recites the feature of a semiconductor processing apparatus comprising a chamber in which a sample wafer as a processing object is processed, first and second data storing devices each receiving and storing data from the chamber which is generated during processing of the sample wafer, the data including data concerning emission data generated within the chamber during the processing, and a selecting device which selectively sends the process data to one of the first and second data storing devices, wherein the second data storing device enables reading the data stored in the second data storing device while the first data storing device stores the process data obtained from the chamber during the processing of the sample wafer.

As described in the specification of this application, and as now set forth in the independent and dependent claims of this application, since a data collecting device for collecting and storing data obtained during processing of a wafer in a chamber from a processing chamber and a data storing device for storing data necessary for analysis or diagnosis and supply the data thus stored through the analysis or diagnosis are provided separately, it is possible to read data stored in the data storing device in order for the analysis or diagnosis while the data collecting device collects data from the chamber. Thus, the data collecting operation of the data collecting device from the chamber which is processing the wafer is not interfered with by the storing operation of the data storing device, so that the data collecting

operation of the data collecting device from the chamber can be performed in parallel with the analysis or diagnosis based on the data read from the data storing device, whereby efficiency of the wafer processing operation is improved in the manner described in the specification of this application, and reference is made to the attached SKETCH, wherein SKETCH B is representative of the present invention.

Applicants note that, in particular, in the case of treating a large amount of data (that is, emission data which is optical data), for analysis or diagnosis of a semiconductor processing apparatus, for example, the present invention provides for improved time of operation and improved efficiency. In general, emission data which is optical data is quite large in data amount, and therefore, a load of collecting optical data into a data collecting device and reading optical data therefrom is quite large. Accordingly, the collection and reading operations require a substantially long time. Thus, if analysis or diagnosis is performed based on the data read from the data collecting device (that is, if there is no provision for at least one data storing device as recited in the claims of this application), it is not only impossible to perform the analysis or diagnosis operation while collecting data from the chamber into the data collecting device, but also, it takes a longer time for data collection from the chamber, the data reading from the data collecting device, and the analysis or diagnosis operation, particularly in the case of optical data. Thus, the efficiency of the wafer processing operation is degraded, as is apparent from the description in the specification of the present application concerning the prior art of Figure 12, which fails to disclose or teach the features as recited in the independent and dependent claims of this application.

Turning to the rejection as set forth by the Examiner, the Examiner recognizes that the admitted prior art as represented by Figure 12 of the drawings of this application, fails to teach various features of the original claims and, as is apparent, fails to disclose or teach the claimed features of Claims 11-25. The Examiner points to various features of Seaton *et al.*, and contends that "it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the archive computer mechanism as taught by Seaton *et al.* in the apparatus of admitted prior art in order to periodically copy data capture files on a series of large capacity memory for later processing" (emphasis added). Applicants submit that the position set forth by the Examiner represents a hindsight reconstruction attempt of the present invention and an example of the principle of "obvious to try," which is not the standard of 35 USC §103 (see *In re Fine, supra*).

Irrespective of the position set forth by the Examiner, reference is made to the attached SKETCH A, representative of the operation of Seaton *et al.* Thus, Applicants submit that Seaton *et al.*, as is apparent from the attached SKETCH A, discloses a configuration which includes a processor host supervisor which is coupled to a controller for a chamber for processing a sample and collects and stores the processing data therein, and a hard drive which is coupled to the processor host supervisor and records data therein from the processor host supervisor, wherein the historical data among the data stored in the hard drive is transferred to an archive computer coupled through a network, and also transferred to an archive hard drive coupled to the archive computer. The historical data recorded in the archive hard drive is suitably read out by the processor host

supervisor or a processor engineer host which is coupled to the processor host supervisor and the archive computer, and then the read-out data is processed. Applicants submit that, irrespective of the disclosure of Seaton *et al.* and the position set forth by the Examiner, Seaton *et al.* does not disclose or teach that the data includes optical data such as emission data generated within the chamber which is optical data, as recited in claims of this application. As such, it is apparent that the problem described above, for example, that data from the chamber may not be taken and written sufficiently in the data collecting device or the processing within the chamber may be delayed since it takes a long time to read and write data into the data collecting device due to the large amount of optical data, is not disclosed or suggested by Seaton *et al.*, such that the proposed combination represents a hindsight reconstruction attempt of the present invention utilizing the principle of "obvious to try." Furthermore, in Seaton *et al.*, the data to be processed within the hard drive is not copied to the storage or the HDD of the processor host supervisor, but rather, a portion of the recorded data within the hard drive is transferred to the archive hard drive or the HDD of the processor host supervisor (see SKETCH A). In such case, the older data (which appears to be less in search frequency) is stored in the archive hard drive and additional old data (which appears to be utilized less in search frequency) is stored in the HDD of the processor host supervisor. Thus, in the case of performing analysis or diagnosis of some data, particularly, of the latest data obtained, rather than old or older data in accordance with Seaton *et al.*, since it is required to access the hard drive to read the data therefrom, the problem as described above, which is present in Figure 12 representative of the prior art, arises.

In contradistinction, in accordance with the present invention, since all data is copied from the data collecting device into the data storage device, appropriate diagnosis or analysis can be effected in the manner recited, which features are not disclosed or taught by Seaton *et al.*, nor rendered obvious from the combination of Seaton et al. and Figure 12 of the drawings of this application, as contended by the Examiner. Accordingly, Applicants submit that the features of the independent and dependent claims of this application patentably distinguish over the admitted prior art of Figure 12 taken alone or in combination with Seaton *et al.* in the sense of 35 USC §103, and all claims should be considered allowable thereover.

With respect to the features of the dependent claims, Applicants note that the dependent claims recite additional features which, when considered in conjunction with the parent claims, further patentably distinguish over the cited art in that such features are not disclosed or taught by the admitted prior art of Figure 12, nor that of Seaton *et al.* Thus, the dependent claims further patentably distinguish over the cited art in the sense of 35 USC §103, and should be considered allowable thereover.

In view of the above amendments and remarks, Applicants submit that all claims present in this application patenably distinguish over the cited art and should now be in condition for allowance. Accordingly, issuance of an Action of a favorable nature is respectfully requested.

Attached hereto is a Petition for Extension of Time Under 37 CFR §1.136. To whatever other extent is actually appropriate, Applicant respectfully petitions the Commissioner for an extension of time under 37 CFR §1.136. Also attached is a

Form PTO-2038 authorizing payment of the requisite Petition and claims fees (Codes 1201/1202/1203/1252). Please charge any shortage in the fees due in connection with the filing of this paper to ATS&K Deposit Account No. 01-2135 (referencing Case No. 500.41371X00).

Respectfully submitted,

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ATTACHMENTS:
SKETCH (Sketch A/Sketch B)
Formal Corrected Figure 2
Formal Corrected Figure 12
Petition for Extension of Time
Form PTO-2038 (Fee Codes 1201-1203 and 1252)